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IN THE CLAIMS:

1. (original) A method of manufacturing a rotor for a high vacuum turbomolecular pump, comprising the steps of:
providing a workpiece being made of a material suitable for producing of said rotor;
forging said workpiece to obtain a generally cylindrical body(1,11) having a homogeneous mechanical properties, and
obtaining one or more sets of radial peripheral vanes thereon.
2. (original) The method of claim 1, wherein said generally cylindrical body is a cylindrical billet (1) that is obtained by forging through an axial compression (P₁) thereof while preventing at the same time its radial expansion.
3. (original) The method of claim 1, wherein said rotor is a bell-shaped rotor.
4. (original) The method of claim 3, further comprising the steps of:
forging said generally cylindrical body being a cylindrical billet (1) through an axial compression (P₁), and
(original) subsequently forming a cavity within said cylindrical billet by means of a punch (12) that is forced into the billet, while preventing at the same time radial expansions of the billet through confinement in a mold.
5. (original) The method of claim 4, wherein the steps of forming a cavity comprising extending said cavity (13) over a part of said cylindrical billet and refining by subsequent mechanical working.
6. (original) The method of claim 5, further comprising the steps of forming of a central bore on a bottom of said cavity and subsequently providing a thermal treatment for improving mechanical properties of said bell-shaped rotor.
7. (original) The method as claimed in any preceding claim, further comprising a step of processing said at least one set of radial peripheral vanes by one or more techniques

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selected from the group consisting of milling, turning and electric discharge machining.

8-9. (cancelled)